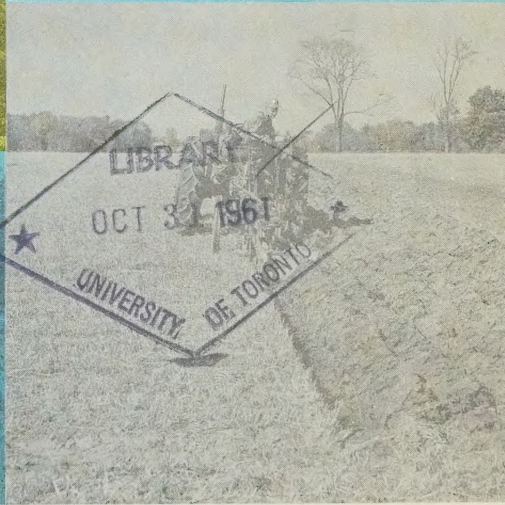
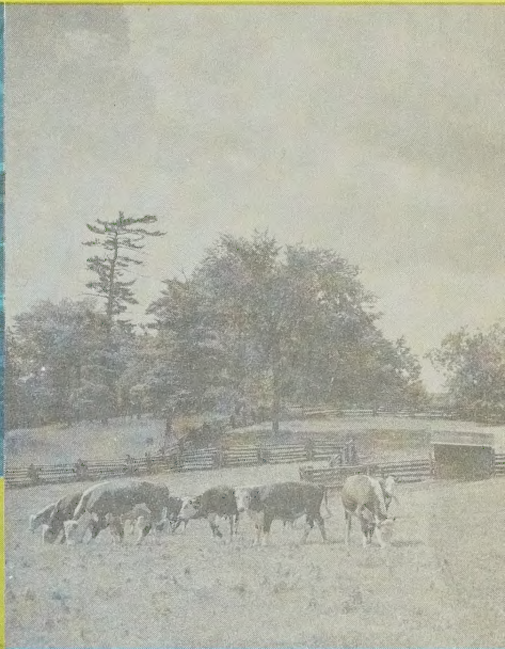
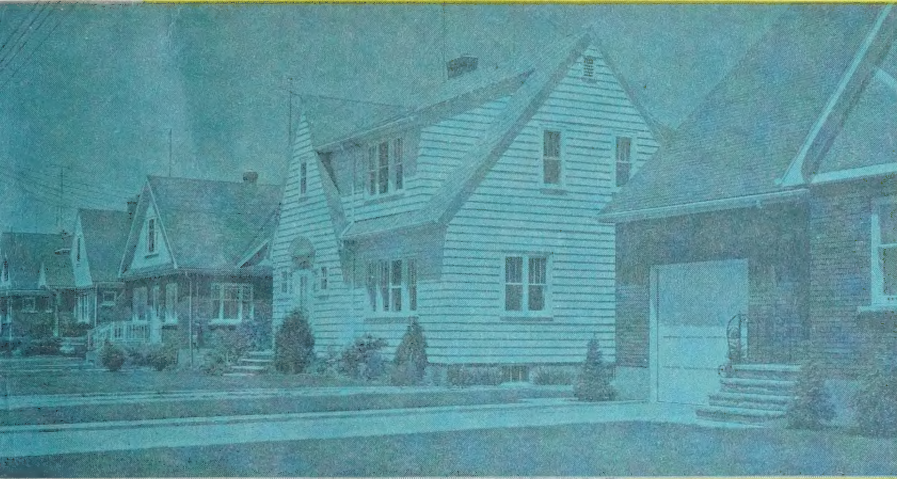


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THE NIAGARA AREA CHANGING LAND-USES



ONTARIO DEPARTMENT OF MUNICIPAL AFFAIRS
COMMUNITY PLANNING BRANCH

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The Niagara Area

CHANGING LAND-USES

ONTARIO DEPARTMENT OF MUNICIPAL AFFAIRS

Minister
The Hon. Wm. K. Warrender, Q.C.


Deputy Minister
L. R. Cumming, Q.C.

Community Planning Branch

Director
A. L. S. Nash

801 Bay Street
Toronto 5, Ontario

July, 1961



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ALTHOUGH RECENT YEARS HAVE SEEN RAPID URBAN EXPANSION IN THE NIAGARA FRUIT BELT, TOTAL TENDER FRUIT FARM ACREAGE DURING THIS PERIOD HAS INCREASED. ALTHOUGH THIS URBAN EXPANSION HAS "USED UP" SOME OF THE MOST PRODUCTIVE AREAS, TOTAL FRUIT PRODUCTION HAS CONTINUED TO GROW.

Introduction

As part of its regional study programme, the Community Planning Branch has been studying the area contained within the three counties of Lincoln, Welland and Haldimand. For the purpose of this paper these counties are defined as the Niagara Area. Reports are being prepared on various aspects of this area. Each of these reports must be considered, not as final in themselves, but rather as chapters in the considerations of the area as a whole.

This particular report deals with some of the different ways that land is being used in the Niagara Area with special emphasis on fruit farming.

Changing Land-Uses

The result of recent research on this topic are shown in Table I. This table shows how the fixed amount of land within the eight townships has been rearranged internally among four different land-use categories during the period from 1954 to 1958.

TABLE I

CHANGING LAND-USE, 1954-1958, IN THE TOWNSHIPS OF:
NORTH GRIMSBY, CLINTON, LOUTH, GRANTHAM, NIAGARA,
STAMFORD, PELHAM AND THOROLD.

(ACRES)

TO FROM	ORCHARD (a)	VINEYARD (b)	URBAN (c)	OTHER (d)	ALL LAND USES (a+b+c+d)
ORCHARD	*	258	650	1197	2105
VINEYARD	346	*	209	888	1443
URBAN	0	0	*	0	0
OTHER	2078	2411	1291	*	5780
ALL LAND USES	2424	2669	2150	2085	9328
NET	319	1226	2150	-3695	0

NOTE: "OTHER" includes all land uses not specifically mentioned in the table (i.e. small fruit, grain, hay, pasture, woodlands, idle lands, gravel pits, etc.).

To see how much of a given land-use category has been replaced by another, read horizontally, from left to right. For example, naturally there was no replacement of ORCHARD by ORCHARD, ORCHARD was replaced by 258 acres of VINEYARD, 650 acres of URBAN, and 1197 acres of OTHER. In total 2105 acres of land used for ORCHARD in 1954 were replaced by VINEYARD, URBAN and OTHER land-uses in the period 1954-1958.

To learn the area a given land-use category has gained from other categories of land-use, read vertically, from top down. For example, ORCHARD did not replace ORCHARD, ORCHARD replaced 346 acres of VINEYARD, nil acres of URBAN and 2078 acres of OTHER. In total 2424 acres of land used for purposes other than ORCHARD in 1954 were replaced by ORCHARD in the period 1954 to 1958.

The final result of these two processes is a net increase for ORCHARD of 319 acres (2424 minus 2105 acres).

The most significant aspect of this table is that it shows that there has been no reduction in the acreage of land being cultivated for fruit production in the Niagara Area. On the contrary, there has been a net increase of 319 acres of ORCHARD and 1226 acres of VINEYARD over this four year period. The only decrease took place in the general category of OTHER.

At the same time that total fruit acreage has been increasing, certain other changes have accompanied the internal rearrangement of land uses within the Niagara Area. One example is the change in size of what is known as the "Tender Fruit Areas". Before examining these areas in detail let us see just what is meant by them and how they relate to fruit farming.

"Tender Fruit Areas" Defined

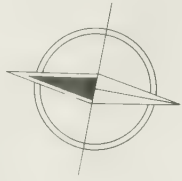
Successful fruit farming, like successful cooking, requires the right ingredients mixed in the right proportions. The two most important ingredients for the growth of fruit are suitable soil and suitable climate. However, because some types of fruit are more delicate than others, the exact definition of "suitable" varies considerably.

Map 1
Niagara Area
1958

TENDER FRUIT AREAS

LEGEND

- Tender Fruit Area
(Basic data from Soil Surveys of Ontario)
- Escarpment



Although many areas of Canada are suitable for only a very limited number of fruit types, the Niagara Area has enough good soils and climate to support quite a wide range. Most of the fruit that can be grown in the Niagara Area is contained in the following list (shown in order of hardness from most delicate to most robust): apricots, peaches, sweet cherries, grapes, plums, pears, sour cherries, small fruit (strawberries, raspberries, etc.), and apples. Under present market conditions all of these, except apricots, are grown commercially in varying amounts. The bulk of the crop is composed of peaches and grapes.

Because peaches are so delicate, they, together with sweet cherries, are called the "Tender Fruit". Locations having the necessary soil and climate characteristics for peaches and sweet cherries are known as "Tender Fruit Areas". They exist in quantity in the Niagara Area, particularly along the shore of Lake Ontario. Other parts of the Niagara Area capable of producing fruit have been named "Other Fruit Areas" in order to distinguish between the two. The significant difference between them is that, although all fruit can be grown well on the Tender Fruit Areas, it is very difficult to grow peaches and sweet cherries on the Other Fruit Areas.

Map I shows the Tender Fruit Areas. It does not show the Other Fruit Areas, whose limits are somewhat indefinite, although in general they tend to consist of the parts around the fringes of the Tender Fruit Areas. The two different kind of areas together make up what is known as the Niagara "Fruit Belt". The Fruit Belt roughly consists of the strip of frost-sheltered land along the south shore of Lake Ontario at the foot of the Niagara escarpment, plus two smaller areas of sandy soil on the plateau south of the escarpment.

Changes in the Tender Fruit Areas

In their natural state, prior to the white man's coming, the Tender Fruit Areas constituted about 35,000 acres. By 1958, about 13,000 acres (or 37%) had been converted to the non-agricultural uses (i.e. housing, industry, commerce, highways, railways and other non-agricultural uses) leaving 22,000 acres still useful for fruit farming in the Tender Fruit Areas. This does not consider the large amounts of land lost by erosion to Lake Ontario or by soil erosion.

Of the 13,000 acres that have been converted over the years, approximately 10,000 acres were "used up" prior to 1934, and about 3,000 acres in the 24 years since then. Furthermore, most of this 3,000 acres has been taken in the last few years. Table II shows the progression. Between 1934 and 1954, a total of 1660 acres of Tender Fruit Areas were converted to urban uses, for an average rate of 80 acres per year. Between 1954 and 1958, the total was 1291 acres for an average rate of 320 acres per year.

TABLE II
URBAN INCREASE ON THE TENDER FRUIT AREAS

Township	Urban increase on Tender Fruit Areas. (acres)		Total urban increase (acres)		Urban increase on Tender Fruit Areas as a percentage of total urban increase.	
	1934-54	1954-58	1934-54	1954-58	1934-54	1954-58
North Grimsby	100	87	200	108	50%	81%
Clinton	40	33	200	114	20%	29%
Louth	140	58	300	95	47%	61%
Grantham	860	696	2500	929	34%	75%
Niagara	140	69	400	94	35%	73%
Stamford	290	252	2000	361	15%	70%
Thorold	10	16	800	356	1%	5%
Pelham	80	80	400	93	20%	86%
Total Area	1660	1291	6800	2150	28%	60%

NOTE: 1934-54 data is extracted from "Changing Land-Use Patterns in the Niagara Fruit Belt" by Ralph R. Krueger, Transactions of the Royal Canadian Institute, October, 1959.

Fruit production statistics, although not available for the Area considered in this report, are summed up in Table III for Canada and Ontario.

TABLE III
FRUIT PRODUCTION

Type of Fruit	<u>Canada</u> Average annual production (1955 -58 inclusive) - in 1000's	<u>Ontario</u> Average annual production (1955 -58 inclusive) - in 1000's	Ontario production as a percentage of Canadian production (average 1955-58 figures)	Ontario production change between 1954 and 1958 calculated as a percentage of 1954 figures*
Apples	16,050 bu.	3,743 bu.	23%	+29%
Pears	1,381 bu.	738 bu.	53%	+ 9%
Plums & Prunes	641 bu.	415 bu.	.65%	-12%
Peaches	2,599 bu.	2,148 bu.	83%	+ 5%
Cherries	628 bu.	528 bu.	84%	+30%
Strawberries	20,543 qt.	7,029 qt.	34%	-23%
Raspberries	10,733 qt.	2,683 qt.	25%	-22%
Grapes	87,042 lbs.	85,887 lbs.	98%	+ 2%

Source: Dominion Bureau of Statistics

* In order to minimize yearly fluctuations, the 1954 and 1958 figures are actually average annual figures for the years 1951-54 inclusive and 1955-58 inclusive, respectively.

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